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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,111	01/17/2002	Kevin E. Brehmer	M-12279 US	1813
36257	7590	10/19/2005	EXAMINER	
PARSONS HSUE & DE RUNTZ LLP 595 MARKET STREET SUITE 1900 SAN FRANCISCO, CA 94105			QUIETT, CARRAMAH J	
			ART UNIT	PAPER NUMBER
			2612	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/053,111		BREHMER ET AL.	
	Examiner		Art Unit	
	Carramah J. Quiett		2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7,10-12,24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) 6,8,9,13-23 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,10-12,24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/23/2002</u> . | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of the first species (claims 1-5, 7, 10-18, 24-25) in the reply filed on 9/13/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election *without* traverse (MPEP § 818.03(a)).

Although the Applicant elected the first species, claims 13-18 are not apart of the first species. According to the Applicant's drawings (figs. 9A-9D) and specification (page 8, pgph 35), claims 13-18 belong to the fourth species, for these claims are drawn to a threshold passed signal. As a result, only claims 1-5, 7, 10-12, and 24-25 (first species, figs. 1-5 and 8) will be examined in this particular Office Action. Claims 6, 8-9, 13-23, and 26, which are not apart of the first species, are withdrawn from consideration.

The Applicant is reminded that upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-3, 5, 7, and 10** are rejected under 35 U.S.C. 102(b) as being anticipated by Fossum et al. (#5,841,126).

As for **claim 1**, Fossum discloses a method for image sensing (second embodiment) comprising the acts of:

producing, from a photo detector, a plurality of detected electronic signals responsive to an optical image (col. 7, lines 44-64).

amplifying, with a column buffer amplifier, signals selected from the detected electronic signals to produce a plurality of amplified signals (col. 7, lines 44-53);

sampling, with a correlated double sampler, signals selected from the amplified signals to produce a plurality of sampled signals (col. 8, lines 27-38); and

clamping, by a clamp circuit, at least one signal selected from the detected electronic signals and the sampled signals in response to a detecting of at least one over-saturation condition; whereby image inversion is at least partially abated (col. 8, lines 9-18).

For **claim 2**, Fossum discloses the method wherein the photo detector comprises a photo diode (col. 7, lines 44-64).

For **claim 3**, Fossum discloses the method wherein the photo detector comprises a photo gate (col. 7, lines 44-64).

As for **claim 5**, Fossum discloses a method for enhancing a video image comprising the acts of:

sampling a plurality of image signals with a correlated double sampler to produce a plurality of sampled signals (col. 8, lines 27-38);

clamping, with a clamp circuit, signals selected from the image signals (col. 7, lines 44-53) and the sampled signals during a reset phase of the correlated double sampler (col. 8, lines 27-38).

For **claim 7**, Fossum discloses the method wherein the clamp circuit operates in conjunction with a column buffer amplifier comprising a source follower (col. 8, lines 27-38).

As for **claim 10**, Fossum discloses a circuit (fig. 8) comprising: an image sensor array (pixel array) comprising:

- a clamp circuit (col. 7, lines 44-64);
- column buffer amplifier (col. 7, lines 44-64); and
- a correlated double sampling circuit (col. 8, lines 27-38).

4. **Claims 24-25** are rejected under 35 U.S.C. 102(b) as being anticipated by Tsang et al. (#5,900,623).

For **claim 24**, Tsang teaches that in an image sensor that correlates a first sample of a first signal during a first interval after reset of a photo detector and a second sample of the first signal during a later interval to produce a luminance signal, a method for abating an error (blooming col. 10, lines 11-24) in the luminance signal due to excessively rapid slewing of the first signal during the first interval wherein the improvement (col. 13, lines 43-54) comprises:

detecting that the first signal is slewing excessively rapidly during the first interval (col.7, lines 28-67); and

limiting the value of the first sample; whereby the image sensor produces an output of improved accuracy (col. 10, lines 11-24).

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For **claim 24**, Tsang teaches the method wherein: the error (blooming) is an image inversion due to over-saturation (col. 10, lines 11-24).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Fossum et al. (#5,841,126) in view of Koyama et al. (#5,786,713).

For **claim 4**, Fossum teaches the method with a clamp circuit (col. 7, lines 44-53). However, Fossum does not expressly teach the method wherein the clamp circuit is implemented in a technology selected from a list consisting of N-well CMOS process technology and of P-well CMOS process technology. In a similar field of endeavor, Koyama teaches a method wherein the clamp circuit is implemented in a technology selected from a list consisting of N-well CMOS process technology and of P-well CMOS process technology (fig. 37; col. 20, lines 41-47). In light of the teaching of Koyama, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Fossum's clamp circuit in a technology selected from a list consisting of N-well CMOS process technology and of P-well

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CMOS process technology in order to control the integration the imaging device (Koyama, col. 20, lines 41-62).

7. **Claims 11 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fossum et al. (#5,841,126) in view of Yano (#6,900,832).

For **claim 11**, Fossum discloses the circuit wherein the imaging device has 3 modes with different integration periods (col. 7, lines 44-64). However, Fossum does not expressly disclose the circuit wherein the image sensor array captures still images. In a similar field of endeavor, Yano discloses the circuit wherein the image sensor array captures still images (fig. 4, col. 5, lines 50-51). In light of the teaching of Yano, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the imaging device of Fossum with an image sensor array that captures still images in order to improve the quality of imaging for the different modes (Yano, col. 2, lines 16-50).

For **claim 12**, Fossum discloses the circuit wherein the imaging device has 3 modes with different integration periods (col. 7, lines 44-64). However, Fossum does not expressly disclose the circuit wherein the image sensor array captures moving video images. In a similar field of endeavor, Yano discloses the circuit wherein the image sensor array captures moving video images (Yano, col. 6, lines 25-26). In light of the teaching of Yano, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the imaging device of Fossum with an image sensor array that captures moving video images in order to improve the quality of imaging for the different modes (Yano, col. 2, lines 16-50).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Washkurak et al. (6,704,050)	An imaging device comprising active pixels
Kobayashi (6157,407)	A clamped CCD imager.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (571) 272-7316. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CJQ
October 17, 2005


NGOC-YEN VU
PRIMARY EXAMINER